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None

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(54) Fire barrier for light fittings in suspended ceilings

(57) The barrier comprises a sheet 14 of woven fire resistant fabric or impregnated material and a supporting frame 5 for the fabric sheet or material. The supporting frame is adapted to overlie the respective light fitting 1 with the fabric sheet or material spaced from the fitting and with its edges in contact with the surrounding upper surface of the respective suspended ceiling 2. The fabric sheet may comprise a woven sheet of fibrous material, e.g. glass fibres.

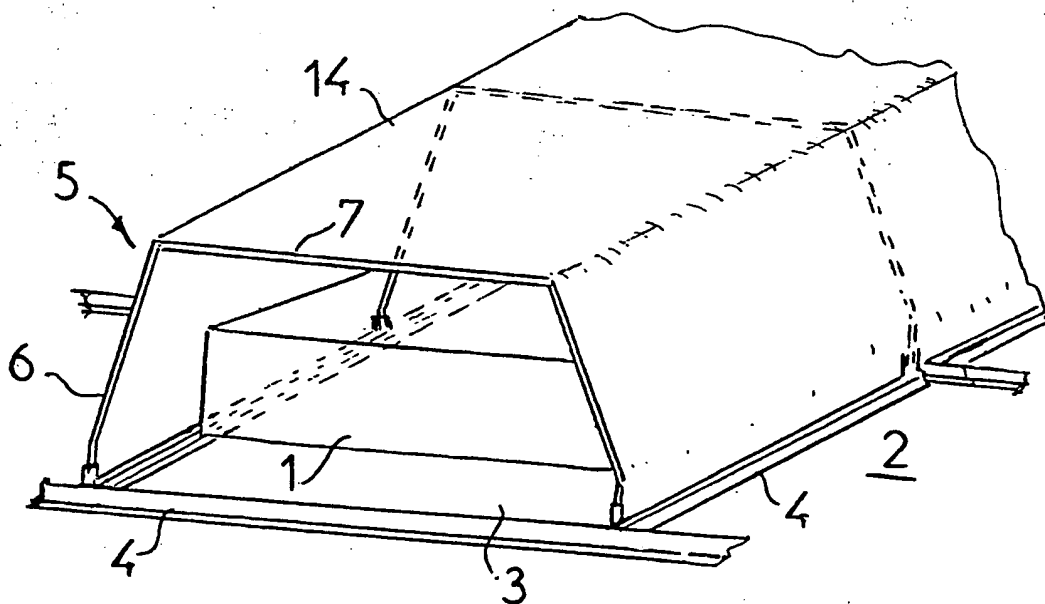


FIG 1

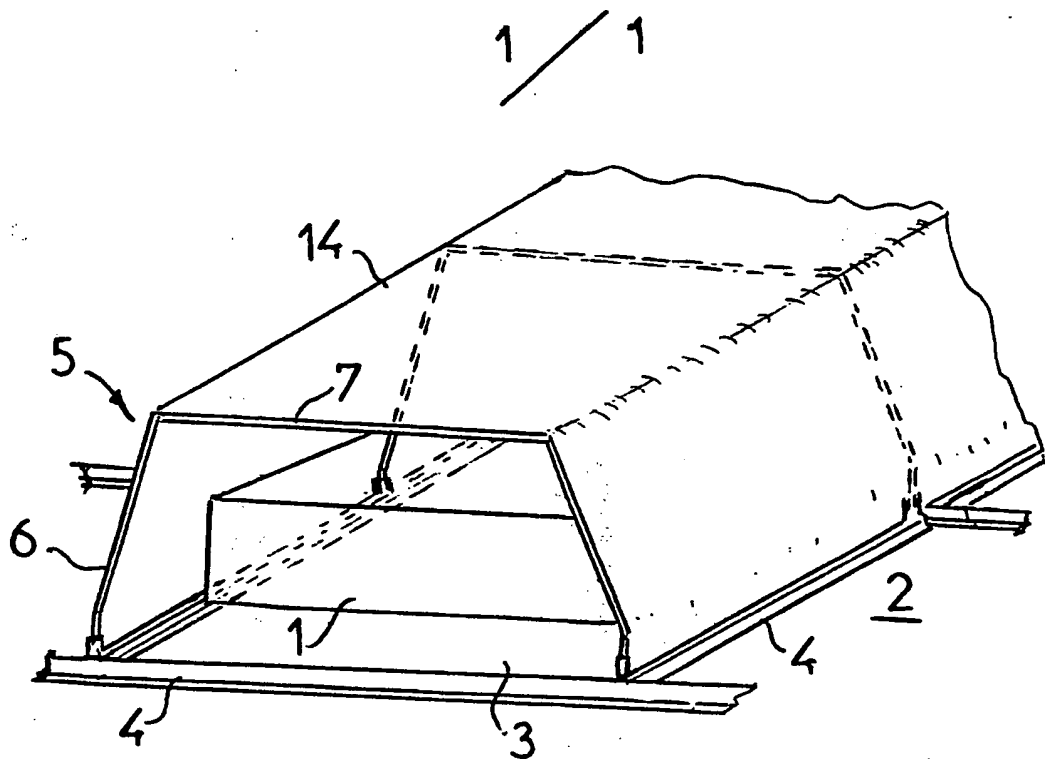


FIG 1

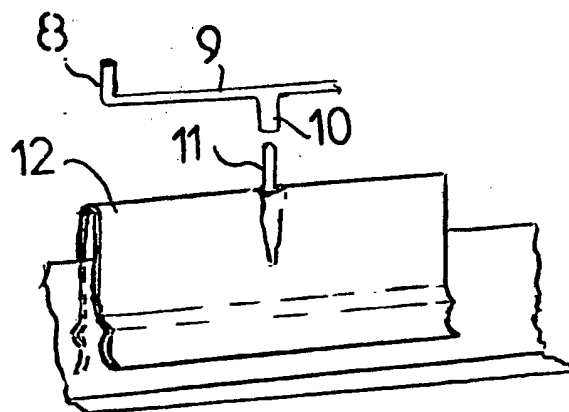


FIG 2

Improvements in and Relating to Fire Barriers

This invention relates to fire barriers and more especially but not exclusively to fire barriers for isolating light fittings for suspended ceilings from the structure in which they are sited.

Conventionally light fittings for suspended ceilings comprise florescent tubes supported within plastics housings positioned within the space defined between the suspended ceiling and the structure below which the suspended ceiling is located. Such fittings are normally either supported on the supporting struts of the suspended ceiling or suspended from the structure above the suspended ceiling. In some cases, the weight of the

housing and light fitting is such that the assembly is both supported on the supporting struts of the suspended ceiling and suspended from the structure above by, for example, a series of rods or chains.

In order to cool such light fittings, the ends of the housing are normally left open with a result that should a fire occur in the room below, once the plastics cover has been removed by the fire, flames can spread rapidly through the open ends of the housing to the structure of the building above the suspended ceiling.

Attempts have been made to construct the housing for such light fittings from fire boards and the like; however such housings are difficult to construct and install and are inevitably heavy. In addition, vent grills are normally required to provide the required degree of air movement.

The present invention sets out to provide a fire barrier which overcomes, or at least alleviates, the disadvantages referred to above.

According to the present invention in one aspect there is provided a fire barrier for use with light fittings for suspended ceilings, which barrier comprises a sheet of woven fire resistant fabric or impregnated material and a supporting frame for the fabric sheet or material, the supporting frame being adapted to overlie the respective light fitting with the fabric sheet or material spaced from the fitting and with its edges in

contact with the surrounding upper surface of the respective suspended ceiling.

The fabric sheet may comprise a woven sheet of suitable fibrous material, e.g. glass fibres, and is preferably of a porous nature. In the event that a non-porous material or a material having limited porosity is employed, a vent of, for example, an intumescent material may be positioned within the fabric sheet.

Alternatively or additionally the fabric sheet may comprise a layer of intumescent paper or the like sandwiched between outer layers of, for example, woven glass fibre.

The frame is preferably constructed from a series of metallic rods shaped to define downwardly inclined leg portions on each side of a central generally horizontal or curved section, the free ends of the two leg sections cooperating with brackets carried by upstanding portions of metallic support struts of the respective suspended ceiling thereby to position the frame above and suspended from a light fitting of the suspended ceiling. The rods may be threaded through open ended seams of the fabric sheet or through eyelets carried by the sheet. The edges of the sheet may be secured to supporting struts of the suspended ceiling by means of spring clips, screws, nuts and bolts or the like.

According to the present invention in another aspect, there is provided a fire barrier which comprises a sheet

of fire resistant fabric or material adapted to be spaced above an article, such as a light fitting, by means of a frame which comprises a series of suitably shaped supports, the assembly of the fabric sheet or material and frame being such that the article to be protected is shrouded above and on all sides by the fabric sheet.

The invention will now be described by way of example only with reference to the accompanying drawings in which:-

Figure 1 is a perspective view of a fire barrier in accordance with the invention positioned above a light fitting of a suspended ceiling; and

Figure 2 shows a clip for use with the fire barrier illustrated in Figure 1.

As will be seen from Figure 1 of the drawings, the light fitting to be protected comprises several florescent tubes mounted in a housing 1 positioned within the space defined between a suspended ceiling 2 and the structure below which the ceiling is suspended. A sheet of opaque plastics material 3 is typically positioned in the ceiling immediately below the housing 1. The light fitting is supported along all four edges by conventional "T" section struts 4 on which the panels of the ceiling are carried. Additional support for the light fitting may be provided by rods or chains suspended from the supporting structure above the suspended ceiling.

Positioned about the light fitting is a frame

comprising a plurality of metallic rods 5 shaped to include two downwardly inclined legs 6 and a central generally horizontal or gently curved section 7. The free ends of the legs 6 extend into tubular fittings 8 of brackets 9. The brackets 9 include rods 10 which seat within channels 11 formed in spring biased brackets 12 which seat over the upstanding flange portions of the "T" section struts 4.

Supported by the frame 5 is a sheet of fire resistant woven fabric 14. The fabric is preferably woven from glass fibres; however any suitable fabric may be employed. The sheet 14 is supported by the frame 5 to define a tent like structure about the ends and sides of the light fitting. The edges of the fabric sheet are secured to the "T" section struts 6 by, for example, the spring clips 12 or other similar clips, screws, nuts and bolts or the like.

Preferably the sheet 14 has sufficient porosity to enable cooling air to circulate freely about the light fitting. However if a non-porous sheet material is employed, a vent of an intumescent material may be sited within the body of the sheet. The sheet may comprise a single layer of, for example, a woven glass fibre material; alternatively, the sheet may comprise a layer of a material such as an intumescent paper sandwiched between outer layers of, for example, a glass fibre material.

The fire barrier described will provide a degree of

fire resistance which at least matches the allocated fire resistance of the respective suspended ceiling.

Advantages of the fire barrier in accordance with the invention include lightness, an ability to be installed both speedily and efficiently, and an ability to be re-used in other suitable locations as and when required.

It will be understood that the foregoing is merely exemplary of fire barriers in accordance with the invention and that modifications can readily be made thereto without departing from the true scope of the invention.

CLAIMS

1. A fire barrier for use with light fittings for suspended ceilings, which barrier comprises a sheet of woven fire resistant fabric or impregnated material and a supporting frame for the fabric sheet or material, the supporting frame being adapted to overlies the respective light fitting with the fabric sheet or material spaced from the fitting and with its edges in contact with the surrounding upper surface of the respective suspended ceiling.
2. A fire barrier as claimed in claim 1 wherein the fabric sheet comprises a woven sheet of fibrous material.
3. A fire barrier as claimed in claim 2 wherein the fabric sheet comprises glass fibres.
4. A fire barrier as claimed in claim 3 wherein the fabric is porous.
5. A fire barrier as claimed in any one of claims 1 to 3 wherein the fabric sheet comprises a material having limited porosity, a vent of an intumescent material being positioned within the fabric sheet.
6. A fire barrier as claimed in any one of claims 1 to 5 wherein the fabric sheet comprises a layer of intumescent paper sandwiched between outer layers of woven glass fibre.
7. A fire barrier as claimed in any one of claims 1 to 6 wherein the frame is constructed from a series of metallic rods shaped to define downwardly inclined leg portions on

each side of a central generally horizontal or curved section, the free ends of the two leg sections cooperating with brackets carried by upstanding portions of metallic support struts of the respective suspended ceiling thereby to position the frame above and suspended from a light fitting of the suspended ceiling.

8. A fire barrier as claimed in claim 7 wherein the rods are threaded through open ended seams of the fabric sheet or through eyelets carried by the sheet.

9. A fire barrier as claimed in claim 7 or claim 8 wherein the edges of the sheet are secured to supporting struts of the suspended ceiling by means of spring clips, screws, nuts and bolts or the like.

10. A fire barrier which comprises a sheet of fire resistant fabric or material adapted to be spaced above an article, such as a light fitting, by means of a frame which comprises a series of suitably shaped supports, the assembly of the fabric sheet or material and frame being such that the article to be protected is shrouded above and on all sides by the fabric sheet.

11. A fire barrier substantially as herein described and as described with reference to Figures 1 and 2 of the accompanying drawings.

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Title:

FIRE BARRIER FOR LIGHT FITTINGS IN SUSPENDED CEILINGS ;

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Applicant(s): ENVIRONMENTAL SEALS LTD (GB) ;

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IPC Classification: E04B1/94 ;

Equivalents:

ABSTRACT:

The barrier comprises a sheet 14 of woven fire resistant fabric or impregnated material and a supporting frame 5 for the fabric sheet or material. The supporting frame is adapted to overlie the respective light fitting 1 with the fabric sheet or material spaced from the fitting and with its edges in contact with the surrounding upper surface of the respective suspended ceiling 2. The fabric sheet may comprise a woven sheet of fibrous material, e.g. glass fibres.